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Illinois
Environmental
Protection Agency

Division of Public Water Supplies
2200 Churchill Road
Springfield, Illinois 62706

26917603

Groundwater Quality Protection Program

Holmes Small Farm SBDV
FACILITY NUMBER 0735246
WELL SITE SURVEY REPORT

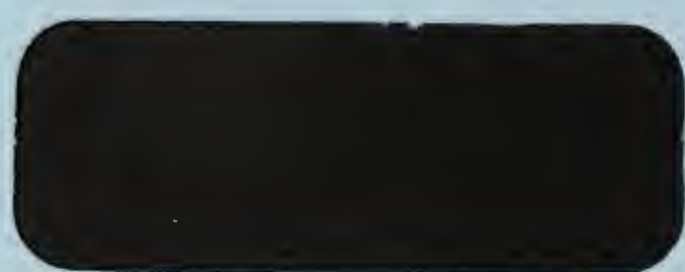
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GROUNDWATER QUALITY PROTECTION PROGRAM:

Holmes Small Farm SBDV
FACILITY NUMBER 0735246
WELL SITE SURVEY REPORT

Presented by:

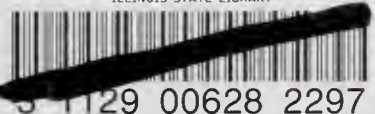
Division of Public Water Supplies

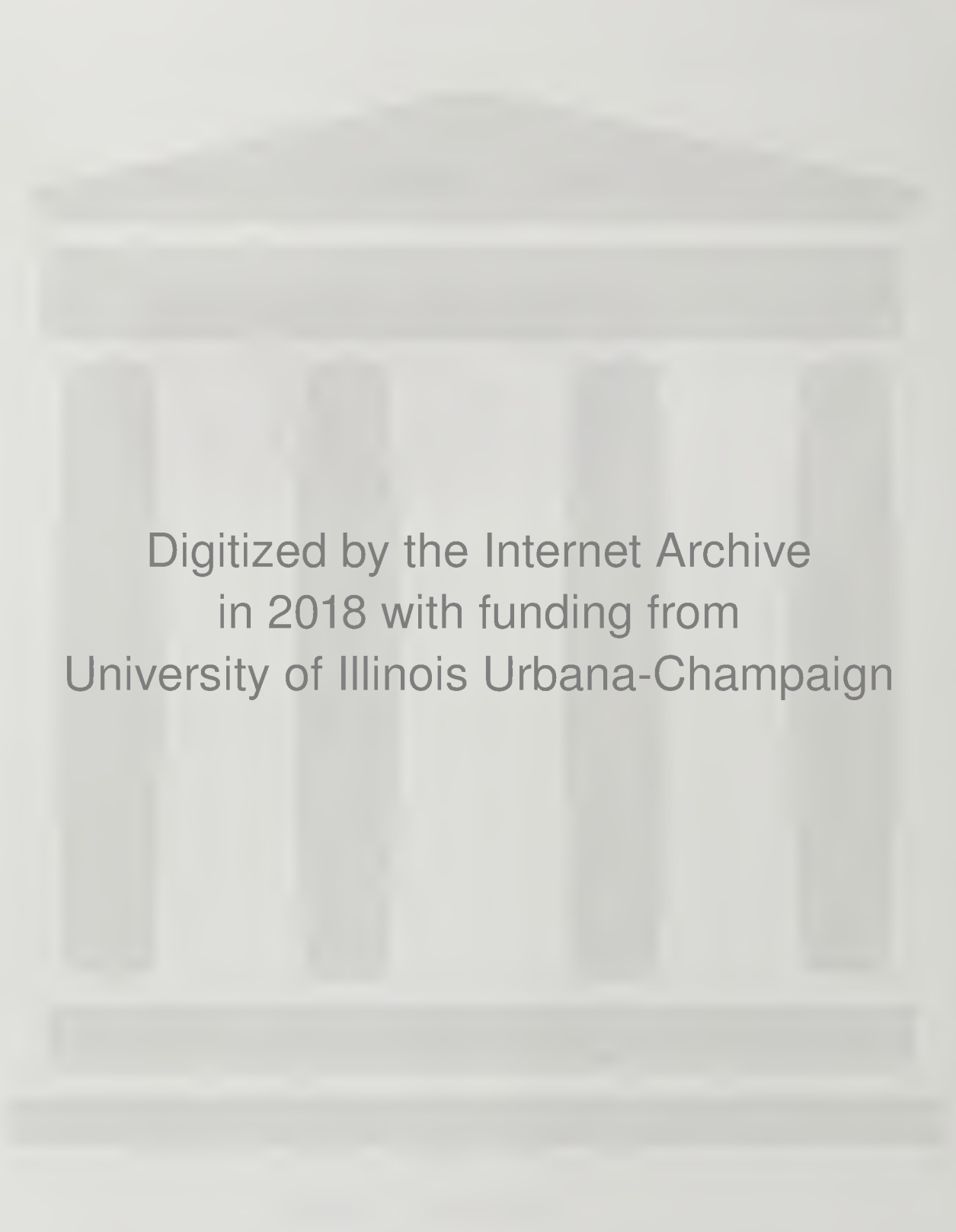
Published by:

Illinois Environmental Protection Agency

Springfield, Illinois

August, 1992





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INTRODUCTION

This report has been prepared by the Illinois Environmental Protection Agency (Agency) pursuant to Section 17.1 of the Illinois Environmental Protection Act (Act). The report summarizes information about your facility and samples collected and analyzed from your well(s). The well site survey provides an inventory of the area around the well(s) to help increase your awareness of potential hazards to the groundwater utilized by your facility. This information and technical data will assist you in developing and implementing local groundwater protection measures authorized by the Act.

FACILITY DESCRIPTION AND GEOLOGIC PROFILE OF WELL SITES

The Holmes Small Farm SBDV has one public water supply well. The Agency has no production figures for the well that serves an estimated population of 32. See Table I for a description of the well. The well utilizes a shallow bedrock aquifer which is overlain by relatively impermeable bedrock and till. Permeability is the measure of the ability of a soil or sediment to transmit fluids. A description and geologic profile is found in the Facility wells Report (Appendix C).

TABLE 1

Well I.D.	Minimum Setback (Ft.)	Maximum Setback (Ft.)	Status	Capacity (gpm) (MGD)	Specific Capacity (gpm/ft)	Treatment	Aquifer	Well Depth (Ft.)	Well Logs Available
Well #1 (11033)	200	No	A	30 .043	N/A	none	Shallow Bedrock	255	yes

A=Active; I=Inactive

GROUNDWATER SAMPLING/MONITORING HISTORY

The public water supply well at Holmes Small Farm SBDV were sampled as part of the Statewide Groundwater Monitoring Network on February 18, 1987. The samples were analyzed for volatile aromatic and organic chemicals (VOC/VOA) and inorganic chemicals (IOC). The VOC/VOA analyses performed detected no quantifiable levels of organic chemicals the well. The IOC analyses performed found the water to meet all general use guidelines. See Appendix D for detailed results.

SURVEY METHODS AND PROCEDURES

The detailed well site survey consists of an aerial photographic map and inventory sheets (Appendix B), that relate information about potential sources, routes and possible problem sites to your water supply well(s). The location of potential sources, routes, possible problem sites, water supply wells, minimum setback zones, and 1,000 foot survey area are all displayed on the aerial photographic map.

The first page of each survey consists of a summary description and geologic profile for each well. The second and following pages of the survey inventory units within and bordering a 1,500 foot radius of the wellhead. A unit is defined as any device, mechanism, equipment, or area (exclusive of land utilized for agricultural production). The Agency five-digit well number is associated with a unit or map code, and then classified. The classification codes relate to definitions of potential

contamination sources and routes as defined in the Illinois Groundwater Protection Act (see Groundwater Primer pages 18-19). The distance and direction of the unit from the wellhead is also indicated.

Survey Results and Findings:

The well site survey of Holmes Small Farm SBDV was conducted on July 8, 1991 by Gregory White, Environmental Protection Specialist from the Agency's Rockford Regional Office. The following describes the results and findings for Holmes Small Farm SBDV.

Holmes Small Farm SBDV Well #1 (11033). The survey area is rural consisting partly of moderate density residential housing, partly of woodlands, and partly of open space. There are no visible potential sources, routes, or possible problem sites located within the minimum setback zone, or in the survey area. The homes are served by private septic systems.

SUMMARY

The well site survey conducted found no potential sources, routes, or possible problem sites within the survey area (200 ft.), or in the survey area (1500 ft.). Sampling and monitoring to date has detected no contamination in the groundwater utilized by the facility.

The Act provides minimum protection zones for your wells. These minimum protection zones are regulated by the Agency. The Act also authorizes county and municipal officials the opportunity to provide maximum protection zones up to 1,000 feet. The responsibility for the control would then be assumed by the local officials through adoption of a maximum setback zone ordinance.

Since Well No. 3 is the sole source of water for Holmes Small Farm SBDV, the protection provided by a maximum setback zone should be considered a necessary for the community's well being.

Henry County officials should be contacted in order to make application for a maximum setback zone.

RECOMMENDATIONS

The Agency strongly urges Holmes Small Farm SBDV to consider establishing a maximum setback zone ordinance for its wells. Maximum setback zones prohibit the siting of new potential primary sources of groundwater contamination up to 1000 feet from respective wellheads. Regulatory coverage of certain existing activities could be expanded upon adoption of proposed regulations currently before the Illinois Pollution Control Board. To aid you in the development of further regulatory coverage for your well supply, the Agency prepared a "Maximum Setback Zone Workbook" that provides detailed case studies of how to establish maximum setback zones. This text and further technical assistance is readily available from the Agency and the Illinois State Water Survey.

Local governments are also encouraged to consider conducting groundwater protection needs assessments. Any county or municipality having a population less than 25,000 or 5,000 persons respectively, may request the Agency to conduct a hazard review in lieu of a need's assessment. The Agency may issue an "advisory of groundwater contamination hazard" if a significant hazard to the public health or the environment exists.

TECHNICAL APPENDICES

APPENDIX A - Topographic Map of Holmes Small Farm Sbdv.(0735246) Well Location



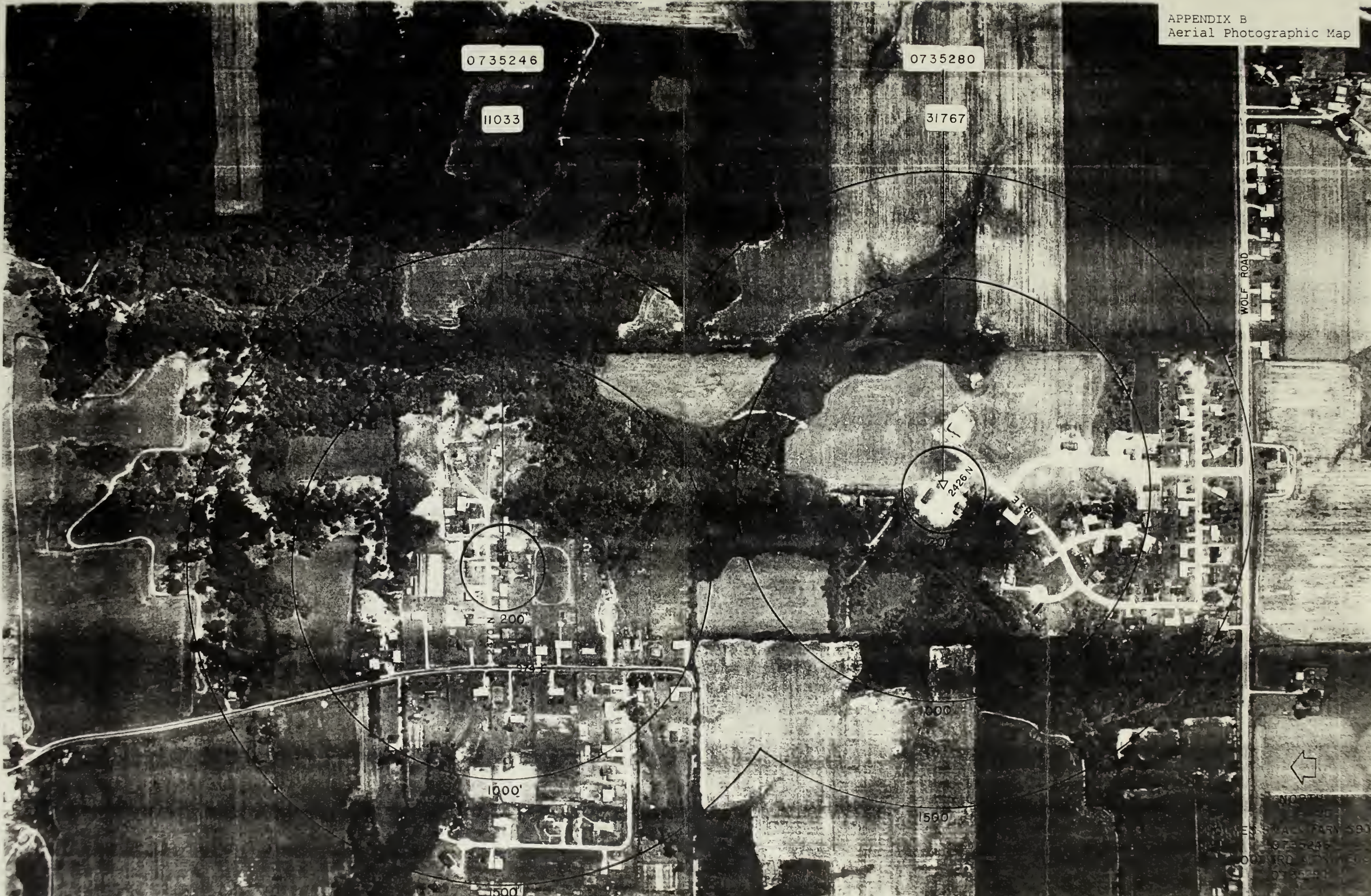
APPENDIX B
Aerial Photographic Map

WOLF ROAD



NORTH
1" = 400'

HOLMES SMALL FARM SBDV
0735246
WOOD RD. ADDN WELL
0735280



APPENDIX B1—Holmes Small Farm SBDV WELL #1 (#11033)
WELL SITE SURVEY SUMMARY DESCRIPTION
AND GEOLOGIC PROFILE

SURVEYOR: WHITE
SURVEY DATE: 7-8-91
ADDRESS: Holmes Small Farm SBDV
Michael Glascock
RR 1 Box 304A
Colona, Il 61241

AGENCY WELL NO.: 11033
WELL NAME & DESCRIPTION: Well #1 -

TAP: 01
FACILITY NO. & NAME: 0735246 Holmes Small Farm SBDV
FACILITY PHONE CONTACT: 309/441-5560

LOCATION:
TWP. RNG, SECTION, 10 ACRE PLOT: 18N, 02E, 34,1E
DISTANCE FROM CORNER SECTION: 2510N, 1060W
QUAD SHEET CODE & NAME: 045C, Hillsdale Quad

MINIMUM SETBACK: 200 ft.
MAXIMUM SETBACK:
GEOLOGIC SUSCEPTIBILITY RATING: F- relatively impermeable bedrock within 20 ft. of surface, mostly overlain by till or other fine-grained material.

AGE OF WELL: 1972
WELL DEPTH: 255 ft.
DEPTH OF CASING: N/A

AQUIFER CODE: 5050, shallow Bedrock
MULTIPLE AQUIFER (Y, N): no

SUMMARY DESCRIPTION OF 1,000 FT. RADIUS AREA:
Survey area is rural consisting partly of moderate density residential housing, partly of woodlands, and partly of open space

INTERVIEW(S):
NAME-AFFILIATION-ADDRESS-TELEPHONE NO.

APPENDIX B1—Holmes Small Farm SBDV WELL #1 (#11033)
INVENTORY AND SYNOPSIS OF UNIT(S)

CLASSIFICATION KEY

MINIMUM ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MINIMUM ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSIFICATION:

NAME & ADDRESS OF UNIT OWNER:

DESCRIPTION & COMMENTS: NO VISIBLE POTENTIAL SOURCES, ROUTES, OR
POSSIBLE PROBLEM SITES

PRE OR POST (Y orN):

DISTANCE & DIRECTION:

APPENDIX C

FACILITY: 0735246 HOLMES SHALL FARM SBOV

----- OWNER ----- OFFICIAL CUSTODIAN -----

G MICHAEL GLASCOCK

RR #1 - BOX 304A

COLONA IL 61241

WELL: 11033 WELL BETWEEN LOTS 6 & 7 STATUS: ACTIVE DEPTH(FT): 255
LATITUDE: N41 30 29.0 LONGITUDE: W090 14 41.0 TWP: 18N RNG: 02E SEC: 34 PLOT: 1E

SUSCEPTIBILITY - LAND BURIAL: F SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 0200 ---

SUSCEPTIBILITY CODES

LAND BURIAL: F = RELATIVELY IMPERMEABLE BEDROCK WITHIN 20 FT OF SURFACE, MOSTLY OVERLAIN BY TILL OR OTHER FINE-GRAINED MATERIALS.

APPENDIX D

FACILITY: 0735246 HOLMES SMALL FARM SBDV STATUS: A PUBLIC: Y COMM: Y TYPE WATER: G
TAP: 01 WELL NONE STATUS: A
RAW SRCE: 11033 WELL BETWEEN LOTS 6 & 7 STATUS: A

SAMPLE NO: 891414400 LOCATION: HOLMES SMALL FARM SBDV WELL
SMPL TYPE: RAM COLLECTOR: M GLASCOCK
SMPL PURP: I-ROUTINE COMMENTS:
SMPL PROG: C-CHEMICAL ONSRVATNS:

COLL DATE: 09/28/89 DELIVERED BY: UPS
LAB RCVD: 09/29/89 RECEIVED BY: MAD
LAB COMPL: 11/27/89 LAB SUPERVISOR: RPF
SMPL PERIOD: 09/89 FUND CODE: PW30

ANALYSIS				STANDARD				TRIGGER			
ID	NO	NO	DESCRIPTION	UNITS	RESULT	DRINK WTR	RAW WTR	LEVEL			
103T000	001	00403	PH LABORATORY UNITS	UNITS	7.900						
103T000	001	00095	CONDUCTIVITY(CE)-LAB(CUMHOS/CM @ 25 C	UM/CM	720.000						
103T000	001	70300	RESIDUE, TOTAL FILTERABLE @180 C, MG/L	MG/L	400.000						
103T000	001	00410	ALKALINITY, TOTAL MG/L AS CaCO3	MG/L	412.000						
103T000	001	00900	HARDNESS, TOTAL MG/L AS CaCO3	MG/L	379.000						
103T000	001	00951	FLUORIDE, TOTAL MG/L AS F	MG/L	0.390	4.000					
103T000	001	00940	CHLORIDE, TOTAL MG/L AS CL	MG/L	1.000						
103T000	001	00945	SULFATE, TOTAL MG/L AS SO4	MG/L	10.000						
103T000	001	00630	NITRATE & NITRITE TOTAL MG/L AS N	MG/L	0.100						
103T000	001	00610	NITROGEN, AMMONIA TOTAL MG/L AS N	MG/L	2.400	10.000					
103T000	001	00956	SILICA, TOTAL MG/L AS SiO2	MG/L	23.000						
103T000	001	00720	CYANIDE, TOTAL MG/L AS CN	MG/L	0.005	0.200					
103T000	001	01002	ARSENIC, TOTAL RECOVERABLE UG/L AS AS	UG/L	20.000	50.000					
103T000	001	01051	LEAD, TOTAL RECOVERABLE UG/L AS PB	UG/L	5.000	50.000					
103T000	001	71900	MERCURY, TOTAL UG/L AS HG	UG/L	0.050	2.000					
103T000	001	01147	SELENIUM, TOTAL RECOVERABLE UG/L AS SE	UG/L	1.000	10.000					
103T000	001	00916	CALCIUM, TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP	MG/L	91.000						
103T000	002	00927	MAGNESIUM, TOTAL RECOVERABLE MG/L AS MA ANAL BY ICP	MG/L	40.000						
103T000	003	00929	SODIUM, TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP	MG/L	8.800						
103T000	004	00937	POTASSIUM, TOTAL RECOVERABLE MG/L AS K ANAL BY ICP	MG/L	0.360						
103T000	005	01105	ALUMINUM, TOTAL RECOVERABLE UG/L AS AL ANAL BY ICP	UG/L	50.000						
103T000	006	01007	BARIUM, TOTAL RECOVERABLE UG/L AS BA ANAL BY ICP	UG/L	353.000	1000.000					
103T000	007	01022	ZINC, TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP	UG/L	55.000						
103T000	008	01012	BERYLLIUM, TOTAL RECOVERABLE UG/L AS BE ANAL BY ICP	UG/L	0.500						
103T000	009	01027	CADMIUM, TOTAL RECOVERABLE UG/L AS CD ANAL BY ICP	UG/L	3.000	10.000					
103T000	010	01034	CHROMIUM, TOTAL RECOVERABLE UG/L AS CR ANAL BY ICP	UG/L	5.000	50.000					
103T000	011	01042	COPPER, TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP	UG/L	5.000	5000.000					
103T000	012	01037	COBALT, TOTAL RECOVERABLE UG/L AS CO ANAL BY ICP	UG/L	5.000						
103T000	013	01045	IRON, TOTAL RECOVERABLE UG/L AS FE ANAL BY ICP	UG/L	2514.000	1000.000*					
103T000	014	01055	MANGANESE, TOTAL RECOVERABLE UG/L AS MN ANAL BY ICP	UG/L	14.000	150.000					
103T000	015	01067	NICKEL, TOTAL RECOVERABLE UG/L AS NI ANAL BY ICP	UG/L	5.000						
103T000	016	01077	SILVER, TOTAL RECOVERABLE UG/L AS AG ANAL BY ICP	UG/L	3.000	50.000					
103T000	017	01082	STRONTIUM, TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP	UG/L	273.000						
103T000	018	01087	VANADIUM, TOTAL RECOVERABLE UG/L AS V ANAL BY ICP	UG/L	5.000						
103T000	019	01092	ZINC, TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP	UG/L	50.000	5000.000					
103T000	020	82394	HARDNESS, CALC - MG/L	MG/L	389.000						

SAMPLE NO: 2002858 LOCATION: WELL
SMPL TYPE: RAM COLLECTOR: IEPA SMPL COLLECTOR
SMPL PURP: 5-SPEC/OTHR COMMENTS:

COLL DATE: 02/18/87 DELIVERED BY:
LAB RCVD: 00/00/00 RECEIVED BY:
LAB COMPL: 00/00/00 LAB SUPERVISOR:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES
SELECTED SAMPLE EXPANDED REPORT

PORT: PWGMP048
JULE: PWGMM026

FACILITY: 0735246 HOLMES SMALL FARM S80V

*** CONTINUED ***

SMPL PERIOD: 02/87 FUND CODE:

ANALYSIS		STORET		DESCRIPTION		UNITS	RESULT	STANDARDS		RAW WTR	TRIGGER LEVEL
IO	NO	NO	NO					ORINK WTR			
0000001	001	00610		NITROGEN,AMMONIA	TOTAL MG/L AS N		2.400				
0000001	002	00630		NITRATE & NITRITE	TOTAL MG/L AS N		0.100	<	10.000		
0000001	003	00665		PHOSPHORUS,	TOTAL MG/L AS P		0.390				
0000001	004	00720		CYANIDE,	TOTAL MG/L AS CN		0.010	<	0.200		
0000001	005	00916		CALCIUM,	TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP		90.000				
0000001	006	00927		MAGNESIUM,	TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP		39.000				
0000001	007	00929		SODIUM,	TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP		8.800				
0000001	008	00937		POTASSIUM,	TOTAL RECOVERABLE MG/L AS K ANAL BY ICP		0.940				
0000001	009	00940		CHLORIDE,	TOTAL MG/L AS CL		1.300				
0000001	010	00945		SULFATE,	TOTAL MG/L AS SO4		10.000	<			
0000001	011	00951		FLUORIDE,	TOTAL MG/L AS F		0.240		4.000		
0000001	012	00956		SILICA,	TOTAL MG/L AS SiO2		24.000				
0000001	013	01002		ARSENIC,	TOTAL RECOVERABLE UG/L AS AS		23.000		50.000		
0000001	014	01007		BARIUM,	TOTAL RECOVERABLE UG/L AS BA ANAL BY ICP		361.000		1000.000		
0000001	015	01012		BERYLLIUM,	TOTAL RECOVERABLE UG/L AS BE ANAL BY ICP		0.500	<			
0000001	016	01022		BORON,	TOTAL RECOVERABLE UG/L AS B ANAL BY ICP		50.000	<			
0000001	017	01027		CADMIUM,	TOTAL RECOVERABLE UG/L AS CD ANAL BY ICB		3.000	<	10.000		
0000001	018	01034		CHROMIUM,	TOTAL RECOVERABLE UG/L AS CR ANAL BY ICB		5.000	<	50.000		
0000001	019	01037		COBALT,	TOTAL RECOVERABLE UG/L AS CO ANAL BY ICP		5.000	<			
0000001	020	01042		COPPER,	TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP		5.000	<	5000.000		
0000001	021	01045		IRON,	TOTAL RECOVERABLE UG/L AS FE ANAL BY ICP		3038.000		1000.000*		
0000001	022	01051		LEAD,	TOTAL RECOVERABLE UG/L AS PB		11.000	<	50.000		
0000001	023	01055		MANGANESE,	TOTAL RECOVERABLE UG/L AS MN ANAL BY ICP		5.000	<			
0000001	024	01067		NICKEL,	TOTAL RECOVERABLE UG/L AS NI ANAL BY ICP		5.000	<			
0000001	025	01077		SILVER,	TOTAL RECOVERABLE UG/L AS AG ANAL BY ICP		3.000	<	50.000		
0000001	026	01082		STRONTIUM,	TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP		241.000				
0000001	027	01087		VANADIUM,	TOTAL RECOVERABLE UG/L AS V ANAL BY ICP		5.000	<			
0000001	028	01092		ZINC,	TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP		100.000	<	5000.000		
0000001	029	01105		ALUMINUM,	TOTAL RECOVERABLE UG/L AS AL ANAL BY ICP		50.000	<			
0000001	030	01147		SELENIUM,	TOTAL RECOVERABLE UG/L AS SE		1.000	<	10.000		
0000001	031	32730		PHENOLS,	TOTAL RECOVERABLE UG/L		5.000	<			
0000001	032	70300		RESIDUE,	TOTAL FILTERABLE 2100 C, MG/L		393.000				
0000001	033	71900		MERCURY,	TOTAL UG/L AS HG		0.050	<	2.000		
0000001	034	50010		WATER TEMPERATURE	DEG C		10.200				
0000001	035	00059		FLOW (PUMPING)	RATE GAL/MIN		15.000				
0000001	036	50001		PH	PH UNITS		7.000				
0000001	037	72004		FLOW (PUMPING)	TIME PRIOR TO SAMPLING MIN		5.000				
0000001	038	90410					434.000				

SAMPLE NO: 2002857 LOCATION: WELL
SMPL TYPE: RAW COLLECTOR: IEPA SMPL COLLECTOR
SMPL PURP: 5-SPEC/OTHR COMMENTS:
SMPL PROG: V-VOC OBSRVATNS:

COLL DATE: 02/18/87 DELIVERED BY:
LAB RCVD: 00/00/00 RECEIVED BY:
LAB COMPL: 00/00/00 LAB SUPERVISOR:
SMPL PERIOD: 02/87 FUND CODE:

FACILITY: J735246 HOLMES SMALL FARM SBOV

*** CONTINUED ***

ANALYSIS		STORER		STANDARD		TRIGGER	
ID	NO	NO	DESCRIPTION	RESULT	DRINK WTR	RAW WTR	LEVEL
0000001	001	32101	BROMODICHLOROMETHANE UG/L CG/MS	1.000 <			
0000001	002	32102	CARBON TETRACHLORIDE UG/L CG/MS	1.000 <	5.000		
0000001	003	32103	1,2-DICHLOROETHANE UG/L	1.000 <	5.000		
0000001	004	32104	BROMOFORM UG/L CG/MS	1.000 <			
0000001	005	32105	DIBROMODICHLOROMETHANE UG/L CG/MS	1.000 <			
0000001	006	32106	CHLOROFORM UG/L CG/MS	1.000 <			
0000001	007	34010	TOLUENE UG/L	1.000 <	1000.000		
0000001	008	34030	BENZENE UG/L	1.000 <	5.000		
0000001	009	34301	CHLOROBENZENE UG/L	1.000 <	100.000		
0000001	010	34371	ETHYLBENZENE UG/L	1.000 <	700.000		
0000001	011	34423	METHYLENE CHLORIDE UG/L	1.000 <	5.000		
0000001	012	34475	TETRACHLOROETHYLENE UG/L GC/MS	1.000 <	5.000		
0000001	013	34496	1,1-DICHLOROETHANE UG/L	1.000 <			
0000001	014	34501	1,1-DICHLOROETHYLENE UG/L GC/MS	1.000 <	7.000		
0000001	015	34506	1,1,1-TRICHLOROETHANE UG/L GC/MS	1.000 <	200.000		
0000001	016	34546	TRANS-1,2-DICHLOROETHYLENE UG/L	1.000 <	100.000		
0000001	017	39180	TRICHLOROETHYLENE UG/L	1.000 <	5.000		
0000001	018	00110	WATER TEMPERATURE DEG C	10.200			
0000001	019	00059	FLOW (PUMPING) RATE GAL/MIN	15.000			
0000001	020	03410	PH PH UNITS	7.000			
0000001	021	72034	FLOW (PUMPING) TIME PRIOR TO SAMPLING MIN	5.000			
0000001	022	90410		434.000			

APPENDIX E

At this time, well logs are not available from either the Illinois State Water Survey or the Illinois State Geological Survey.

UNIVERSITY OF ILLINOIS-URBANA



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